FIG. 1

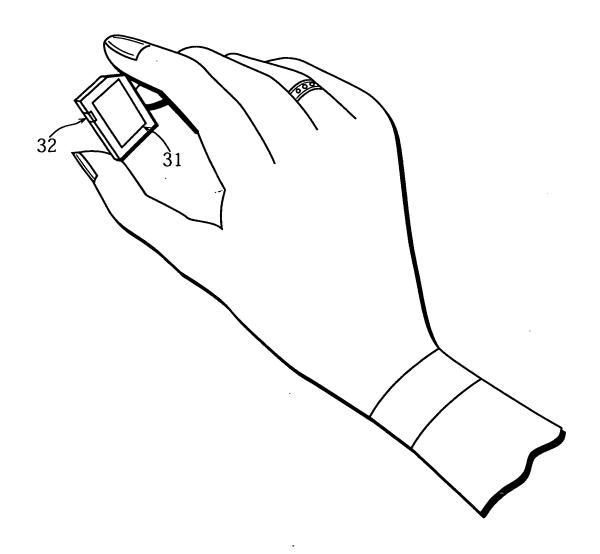
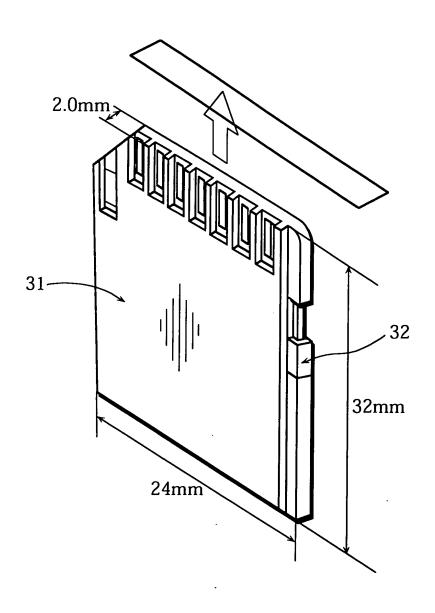


FIG. 2



1

FIG. 3

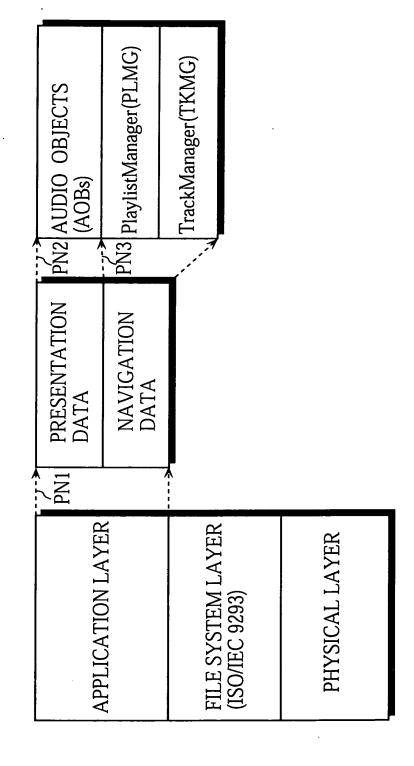


FIG. 4B FILE SYSTEM LAYER (ISO/IEC 9293)

PROTECTED AREA

PARTITION BOOT SECTORS

FILE ALLOCATION TABLE

ROOT DIRECTORY ENTRY

DATA AREA

USER DATA AREA

PARTITION BOOT SECTORS

FILE ALLOCATION TABLE ROOT DIRECTORY ENTRY

DATA AREA

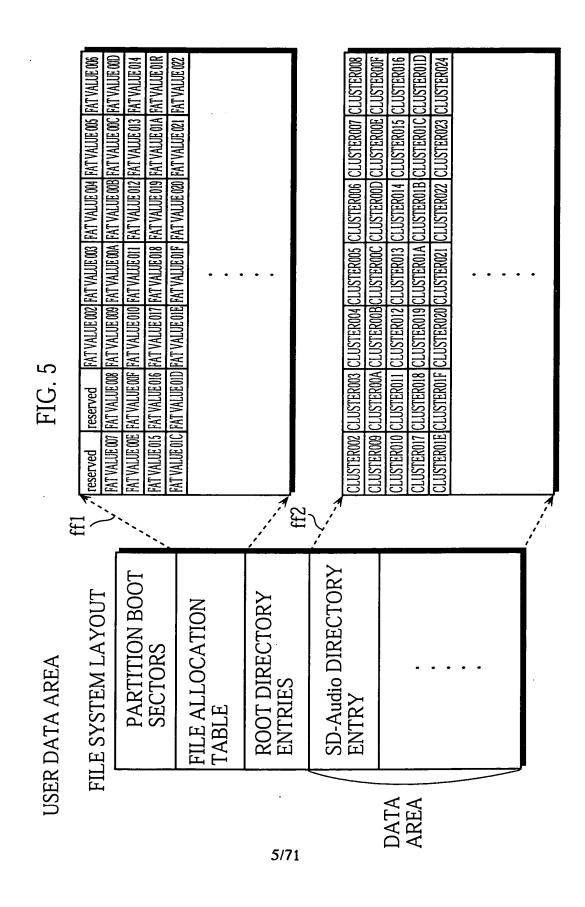
PHYSICAL LAYER

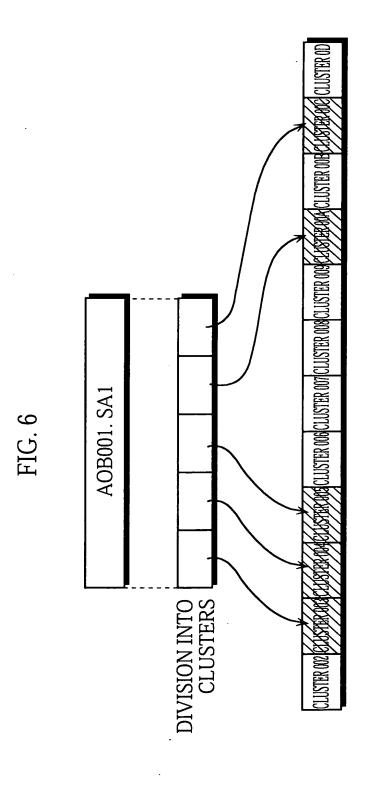
FIG. 4A

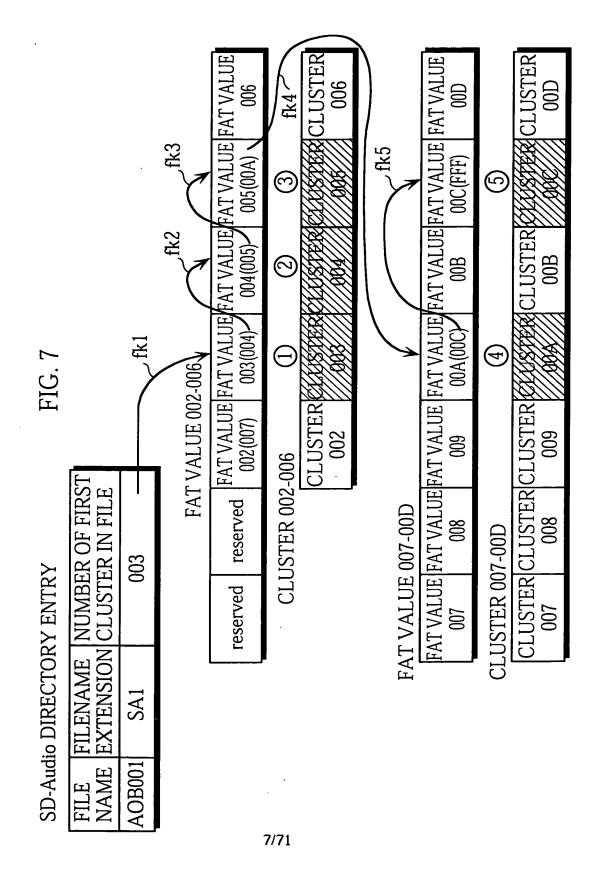
SYSTEM AREA (READ ACCORDING TO) MEDIA ID (SPECIAL COMMANDS)

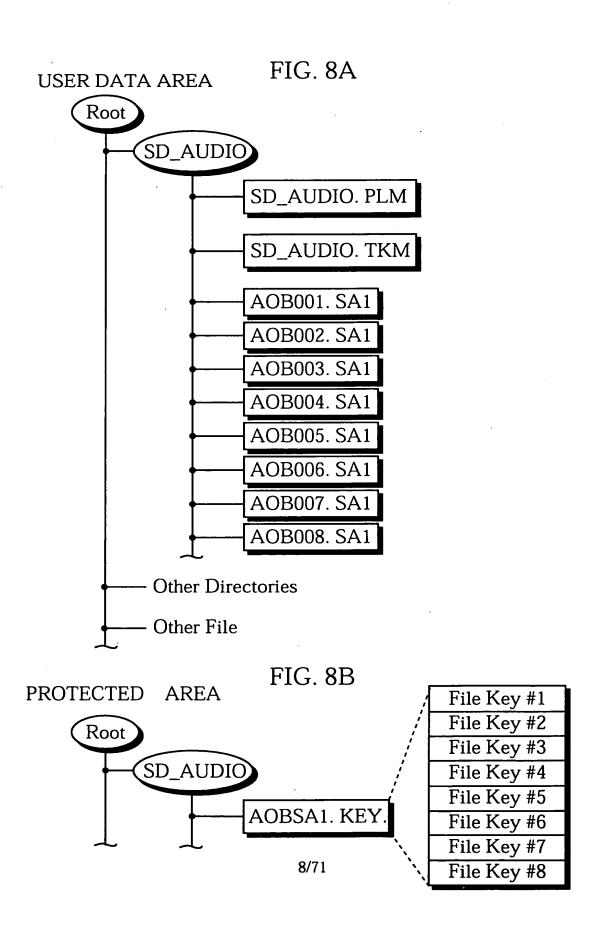
PROTECTED AREA ONLY READABLE ACCORDING TO SPECIAL COMMANDS BY AN AUTHORIZED DEVICE

USER DATA AREA (READING/WRITING POSSIBLE) (ACCORDING TO STANDARD) (ATA/SCSI COMMANDS









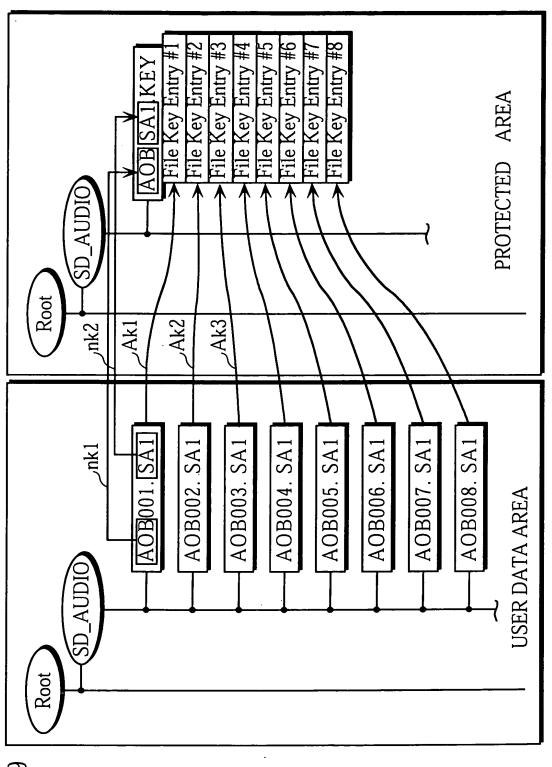


FIG. 9

invalid Area AOB AOB FILE FIG. 10

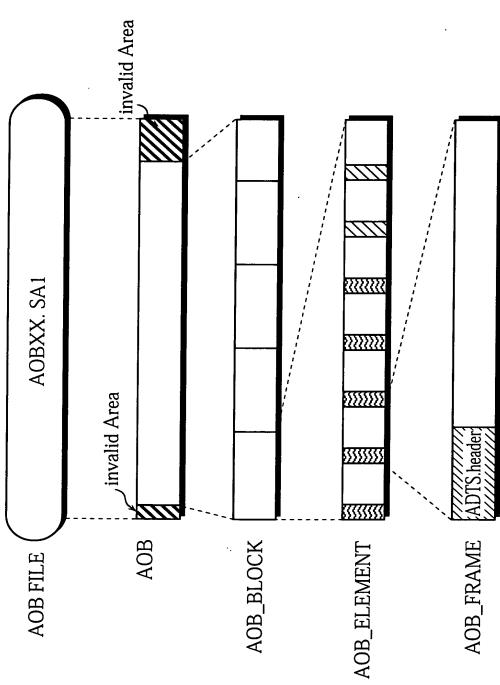


FIG. 11A MPEG2-AAC format

format	Audio_Data_Transport_Stream(ADTS)
Profile	Low Complexity(LC) profile(mandatory)
bitrate per channel**	between 16kbit/s(min.)and 72kbit/s(max.)
	Other bitrates are optional.
sampling_frequency	48 kHz(mandatory)
	44.1 kHz(mandatory)
	32 kHz(mandatory)
	24 kHz(mandatory)
	22.05 kHz(mandatory)
	16 kHz(mandatory)
channel_configuration	single_channel_element(mandatory)
	channel_pair_element(mandatory)
number_of_data_blocks_in_frame	1 header/1 raw_data_block(mandatory)

FIG. 11B

MPEG layer 3 format

T.C	D //DTG 11 0
format	MPEG-1 layer 3
	MPEG-2 layer 3 low sampling frequency
bitrate per channel**	MPEG 1:between 16kbit/s and 96kbit/s
	MPEG 2 LSF:between 16kbit/s and 80kbit/s
	Other bitrates and variable bitrate are optional.
	Bitrate index "0000",i.e. "free format" is not supported.
sampling_frequency	48 kHz
	44.1 kHz
	32 kHz
	24 kHz
!	22.05 kHz
	16 kHz
mode	stereo
	joint_stereo
	single_cannel

FIG. 11C Windows Media Audio format

format	Windows Media Audio format
bitrate per channel**	between 8kbit/s and 80kbit/s
	Other bitrates are optional.
sampling_frequency	48 kHz
	44.1 kHz
	32 kHz
	22.05 kHz
	16 kHz
mode	monaural
	stereo

-THE ENCRYPTION KEY BEING UNIQUE TO EACH AOB LE OF 8 BYTES) (VÁŘÍÁBLÉ LÉNGTH) WITH A Audio_Frame FREQUENCY BYTE LENCTH OF SAMPLING
THE AAC DATA

FREQUENC ADTS header NON-ENCRYPTED PART (7BYTES) SyncWord (FFF) 12/71

FIG. 12

FIG. 13

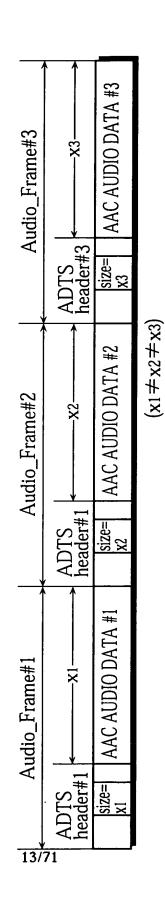
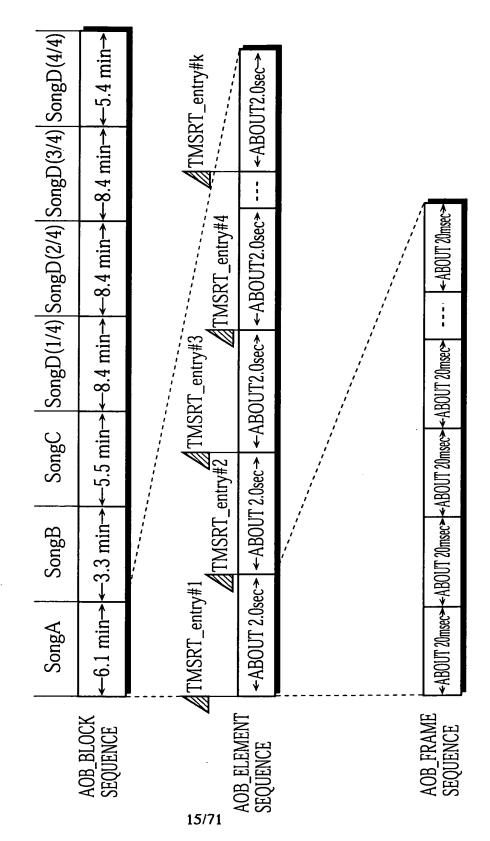


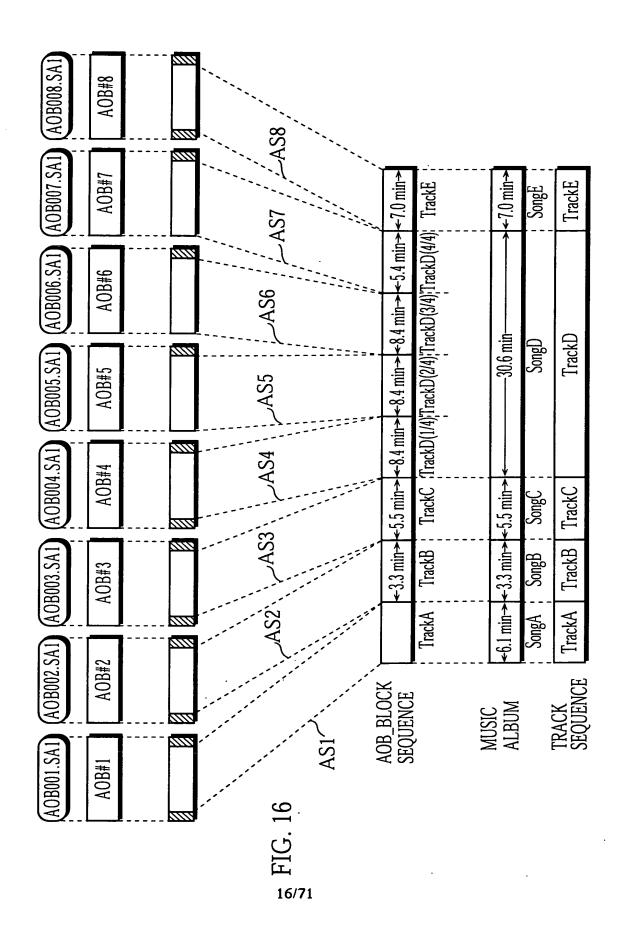
FIG. 14

sampling frequency	FN	s_Middle_TMSR7	ΓE
	AAC	MPEGlayer3	WMA
48kHz	47*N	42*N	×××
44.1kHz	43*N	38*N	$\times \times \times$
32kHz	32*N	28*N	XXX
24kHz	24*N	42*N	×××
22.05kHz	22*N	38*N	$\times \times \times$
16kHz	16*N	28*N	×××

N BEING THE PLAYBACK PERIOD "TIME_LENGTH"
 OF AN AOB_ELEMENT TO AN ACCURACY OF 1/1000TH
 OF ONE SECOND

FIG. 15





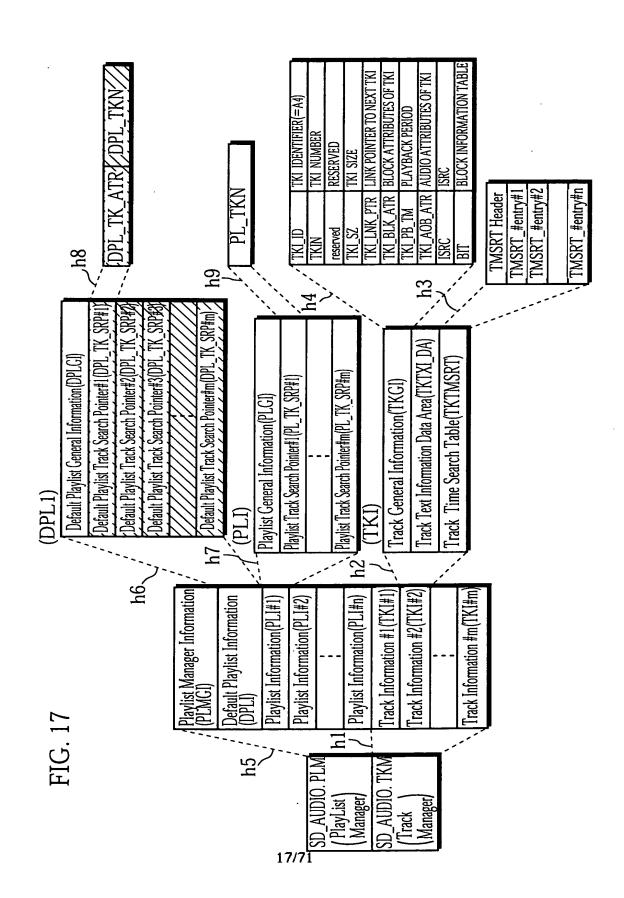


FIG. 18

(PLMG)

FIXED
LENGTH (2.5KByte)
FIXED LENGTH (512Byte)
FIXED LENGTH (512Byte)
FIXED LENGTH (1024Byte)
FIXED LENGTH (1024Byte)

(1≦m≦999)

FIG. 19

AOB#8 AOB008. SA1 Track E Track E TKI#8 **AOB#7** End of Track D AOB007. SA1 TKI#7 AOB006. SA1 Midpoint Midpoint Track D Track D AOB#6 **TKI#**6 Track D TKI#5 AOB005. SA1 **AOB#5** Head of Track D **TKI#4** AOB004. SA1 A0B#4 TA4 Track A Track B Track C Track A | Track B | Track C **TKI#3** AOB003. SA1 A0B#3 TA3 TKI#2 AOB002. SA1 TA2 TKI#1 **AOB#2** AOB001. SA1 TAI A0B#1

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FIG. 20

		,				(DESCR		(DESCRIPTION ORDER)
	Y	*******	RELATIVE BYTE FIELD NAME POSITION	FIELD NAME		CONTENT		NUMBER Of BVTEC
	TMSRT Header		0 to 1	TMSRT ID		IDENTIFIER OF TMSRT 2 BYTES	SRT	2 BYTES
	TMSRT_entry #0	- يايا	2 to 3	reserved		RESERVED		2 BYTES
	TMSRT. entry #1	مر 	4 to 7	Total TMSRT_entry Number TMSRT_entries	Number	TOTAL NUMBER TMSRT_entries	1	4 BYTES
: I			TOTAL				i	8 BYTES
	••••	· ·						
l	••	 				(DESCR)	IPTIO	(DESCRIPTION ORDER)
	TMSRT_entry #n		RELATIVE BYTE POSITION	FIELD NAME	CONTENT	L	N OF	NUMBER OF BYTES
			0 to 3	TMSRT_ENT	Size of A(Size of AOB_ELEMENT	2 By	2 Byte ×252
			TOTAL				TO 504	TOTAL 504 BYTES

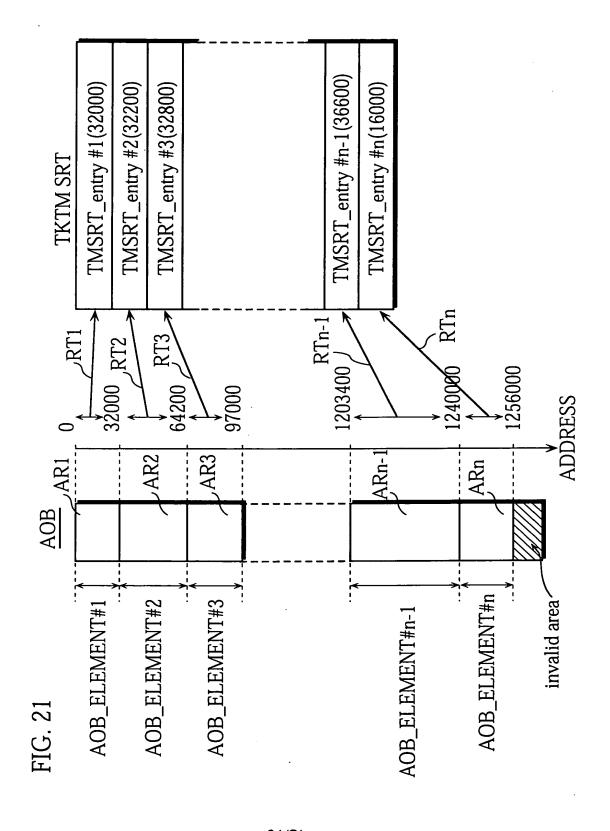


FIG. 22

			<u>b15</u>	b14_	b13	b12	bii	b10	b9	b8
TKI ID	TKI IDENTIFIER(=A4)	ገ ,	<u>{</u>			res	erved			
TKIN	TKI NUMBER	- /	<u>b</u> 7	<u>b</u> 6	<u>b5</u>	<u>b4</u>	рз	<u>b2</u>	b1	b0
reserved	RESERVED	1 /	, Block	I Attribu	eserved	1		D100	k Attr	ibute
TKI SZ	TKI SIZE	1/	DIOCK	0000" 0001" 0011"	B":1S	ONG	IN TKI OF SON	C INI TL	/ T	
TKI LNK PTR	LINK POINTER TO NEXT TKI	1/		"0101	B": MI	DDLE	OF SO	NG IN T		
TKI BLK ATR	BLOCK ATTRIBUTES OF TKI	1 /		"0111 "1001	B":DE	LETE	SONG I			
TKI PB TM	PLAYBACK PERIOD	1		"1011			NITIAL	STATE		•
TKI_AOB_ATR	AUDIO ATTRIBUTES OF TKI	† ~~	b19 Audio	codine	b ₁₆ g mode	b15	h	itrates		b8
ISRC	ISRC	,				h.			h.	bo
BIT	BLOCK INFORMATION TABLE		b7	<u>b6</u> F	<u>b5</u> 'S	b4	b3 Numbe	b2 er of cha	bi innels	bo reserved
							Traino	or or one	4111010	10001 100
			١	1	L	1	1	L.,	L.,	L.,
		į	Validity	<u>b78</u>	<u>b77</u>	<u>b76</u>	b75 eserved	<u>b74</u>	b73	<u>b72</u>
	•	i 1			bee		b ₆₇	b66	b65	b64
		1	rese	b70 rved	b69		untry (
		į	b63	b62	b61	b60	b59	b58	b57	b56
			rese	rved		Co	untry (Code(IS	SRC#2	2)
		1 1 1	b55	b54_	b53	b52	b51	b150	b49	b48
		!	rese	rved		First	Owner	Code(l	SRC#	3)
		į	<u>b47</u>	b46	b45	<u>b44</u>	<u>b43</u>	<u>b42</u>	<u>b41</u>	b40
		1	rese		<u> </u>		Owner	·		
		1 · · · · · · · · · · · · · · · · · · ·	b ₃₉ rese	<u> </u>	b37	b36 First (b35_ Owner	b34 Codo(I	b33	b32
		1	b31	b30	b29		b27	b26	b25	b24
		!	4		g code(ISI	<u>b28</u> RC#6)				
		}	b23	b22	b21	b20	b19	b18	b17	b16
		į			de(ISR			ding co		RC#9)
		1	b15	b14	bı3	b12	bii	b10	b9	b8
			_						<u> </u>	e(ISRC#11)
		,	b7	b6	b5	b4)C#12)	b3	b2	b1	bo
			Kecoldii	ng-item	code(ISR	(J#12)	<u></u>	rese	erved	

FIG. 23A

							bis bia bis bis bii bio by	reserved	by be bs by by b2 b1	FINS IMIGGIE I MONTE [1U]	
NUMBER OF BYTES	4 BYTES	4 BYTES	4 BYTES	2 BYTES		2 BYTES		2 BYTES		2 BYTES	20 BYTES
CONTENT	FIRST ADDRESS OF AOB_BLOCK	DATA LENCTH OF AOB_BLOCK	NUMBER OF TWSRT_entries	NUMBER OF AOB_FRAMES	IN FIRST AOB_ELEMENT	NUMBER OF AOB_FRAMEs	IN LAST AOB_ELEMENT	Ile_TIMSRTE NUMBER OF AOB_FRAMEs	IN AOB_ELEMENTS	PLAYBACK PERIOD OF AOB_ELEMENTS	TOTAL
DN/	DATA_OFFSET	SZ_DATA	TMSRTE_Ns	FNs_1st_TMSRTE		FNs_Last_TMSRTE		FNs_Middle_TMSRTE		TIME_LENCTH	
RELATIVE BYTE POSITION FIEL	60 to 63	64 to 67	68 to 71	72 to 73		74 to 75		76 to 77		61 ot 87 33	/71

FIG. 23B

		Ĺ	J	L			
TE	WMA	×××	× × ×	×××	×××	× × ×	× × ×
FNs_Middle_TMSRTE	MPEGlayer3	N*24	N*8E	N*82	42*N	38*N	28*N
FNs_	AAC	47*N	43*N	32*N	24*N	22*N	N*91
sampling frequency		48kHz	44.1kHz	32kHz	24kHz	22.05kHz	16kHz

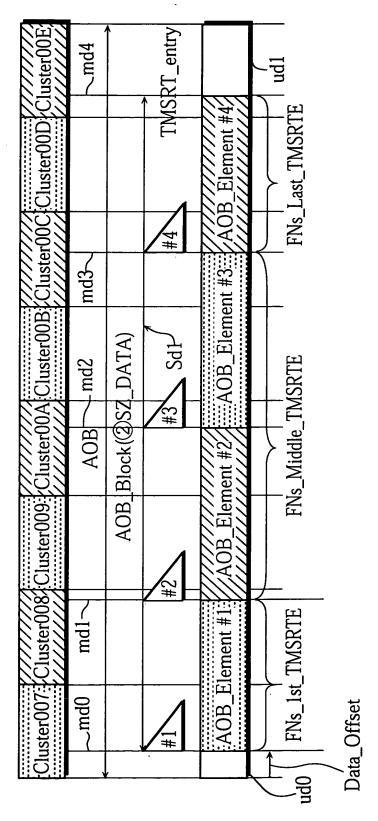
N BEING THE PLAYBACK PERIOD "TIME LENGTH" OF AN AOB ELEMENT TO AN ACCURACY OF 1/1000TH OF ONE SECOND

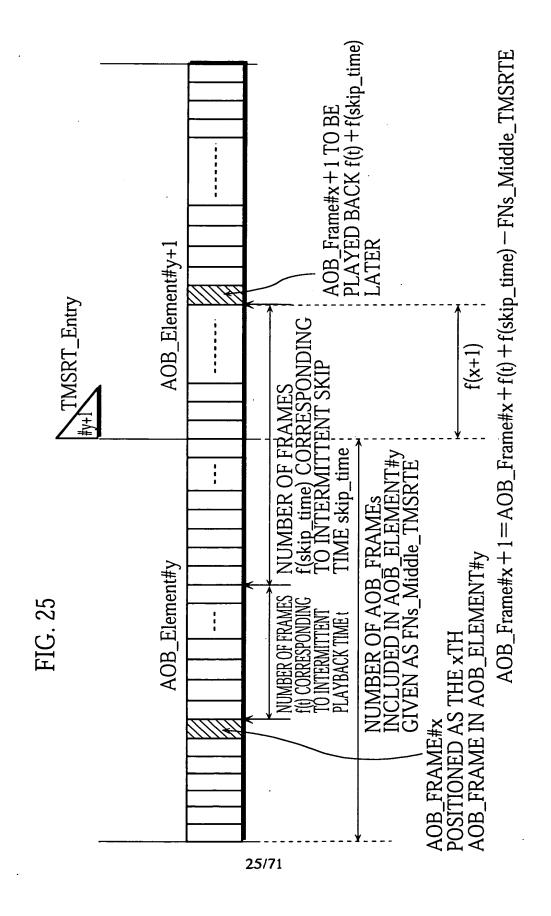
FIG. 23C TIME_LENGTH

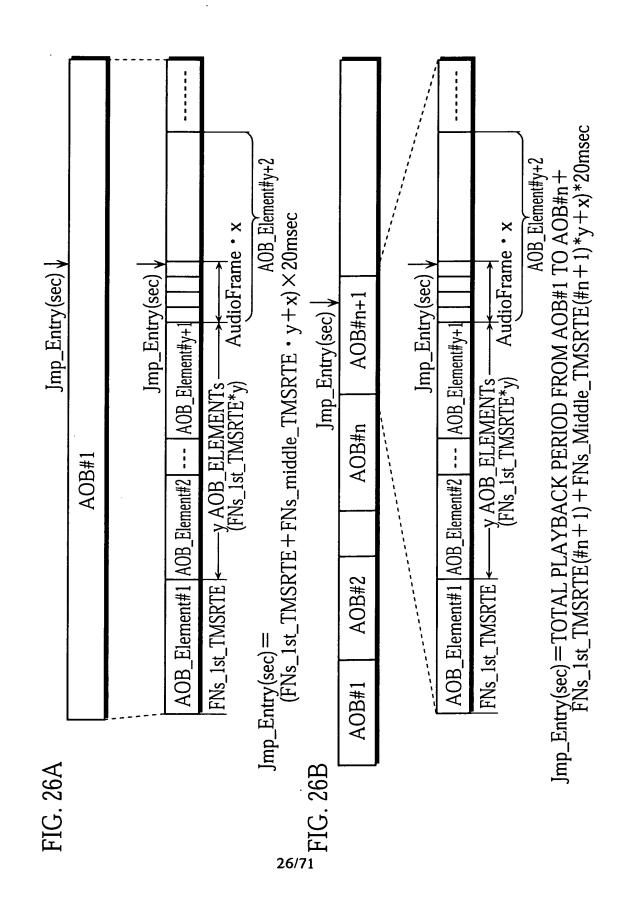
8 9		PQ		
69		pl		
P10	58]	B2	0]	
b11	TIME_LENGTH[158]	b3	TIME_LENGTH[70]	
b12	E_LEN	Þ	E_LEN	
 b13	TIMI	b 5	TIMI	
B14		B6		
b15		P2		

TIME_LENGTH=2000 FOR AAC.MP3

FIG. 24







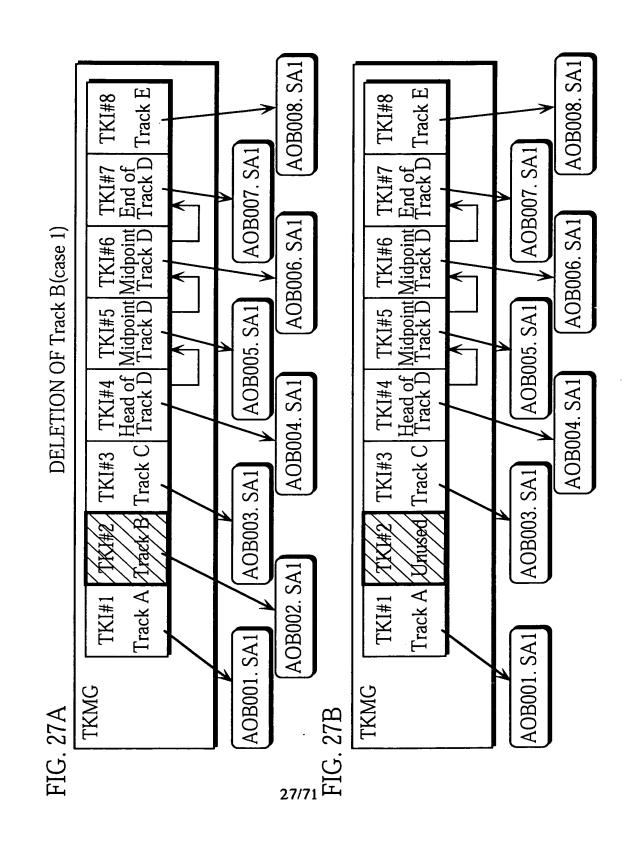
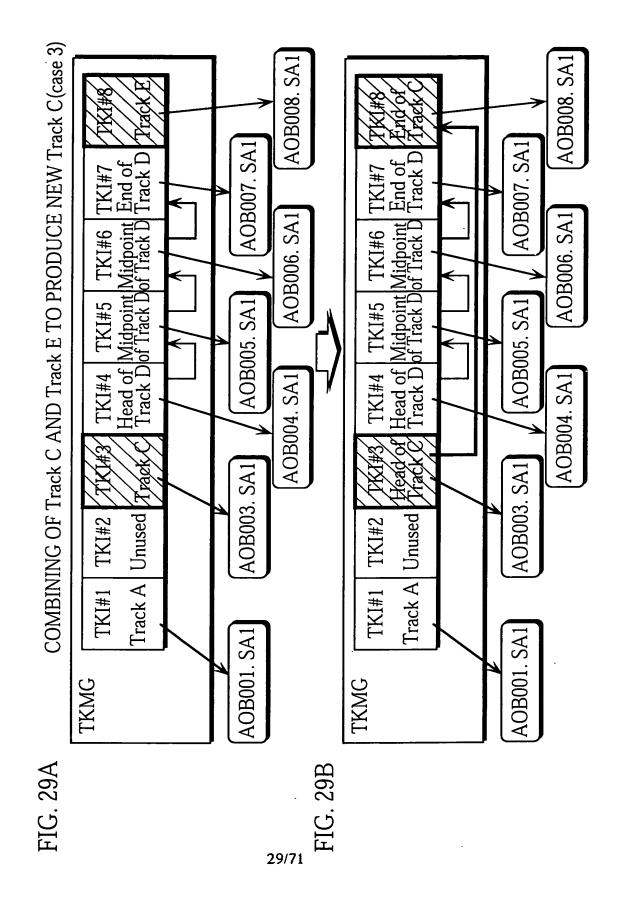
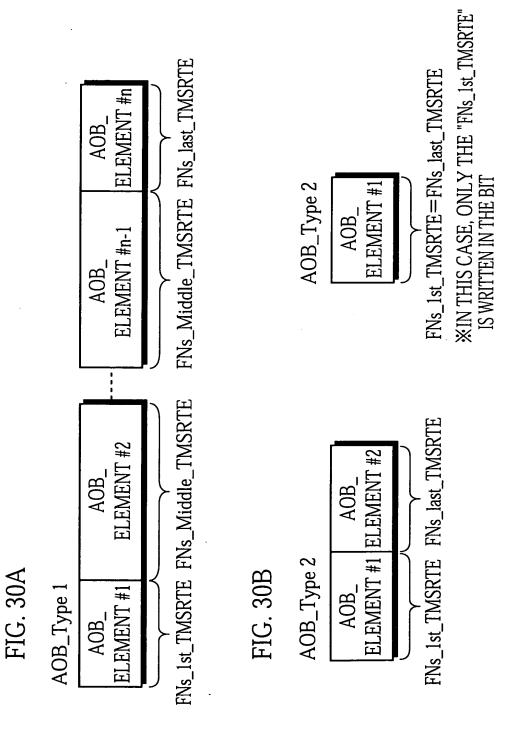
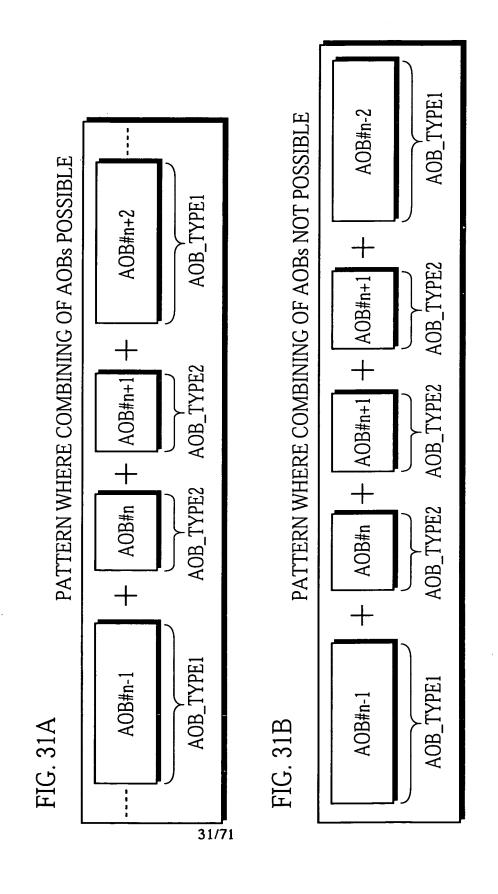


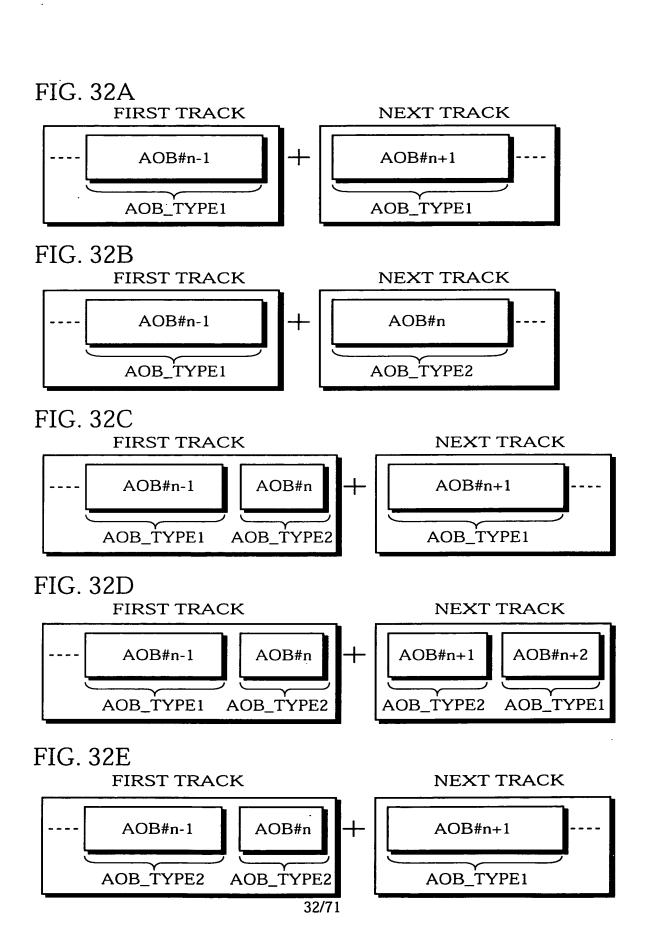
FIG. 28A UPDATING TrackManager USING UNUSED TKI AT DIFFERENT POSITIONS(case 2) AOB008. SA1 AOB007. SA1 AOB004. SA1 Jnysed Track C TKI#6 Unused | Track C **TKI#**6 TKI#5 **CB002. SAN** AOB006. SA1 AOB006. SA1 TKI#3 Track B Track B **TKI#3** AOB003. SA1 AOB003. SA1 **Unused** Track A Track A TKI#1 TKI#1 AOB001. SA1 AOB001. SA TKMG TKMG FIG. 28B 28/71

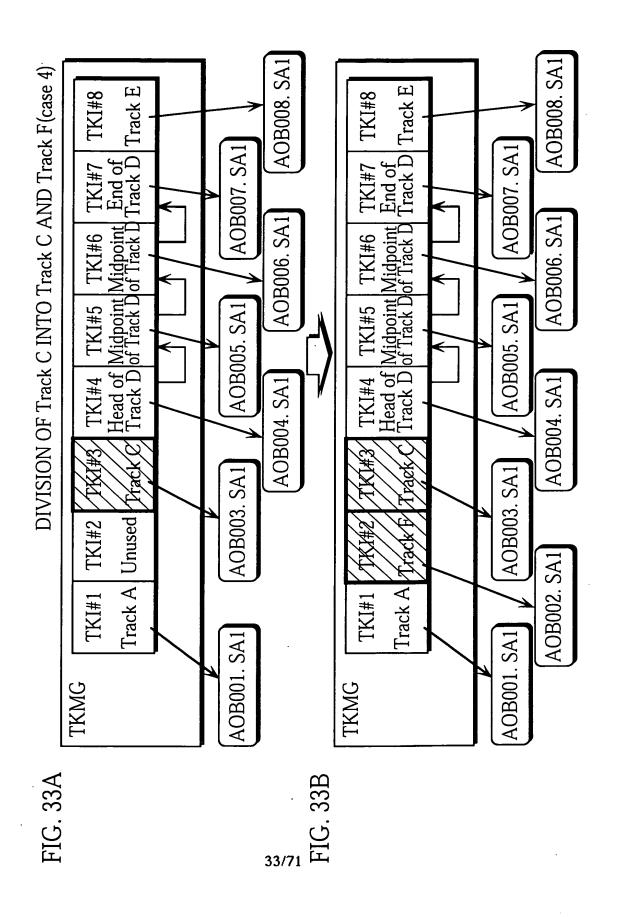


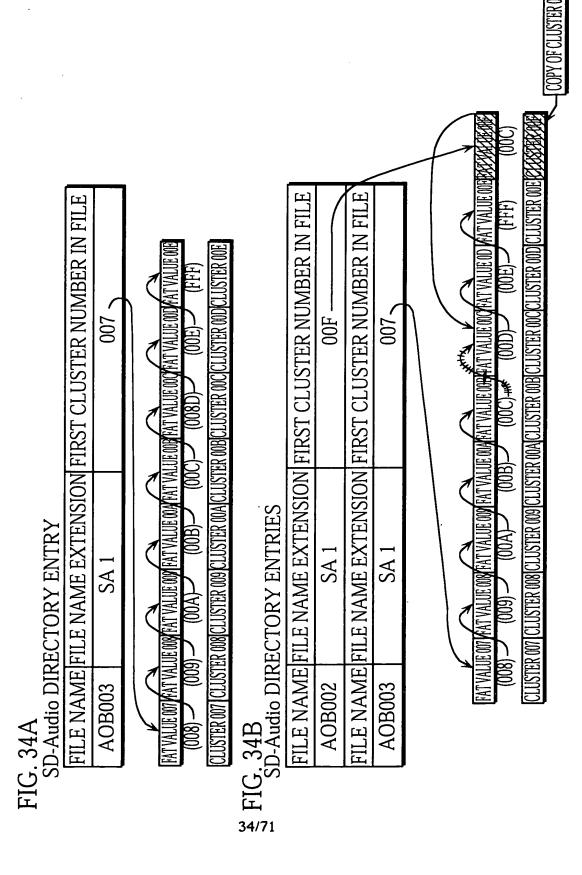


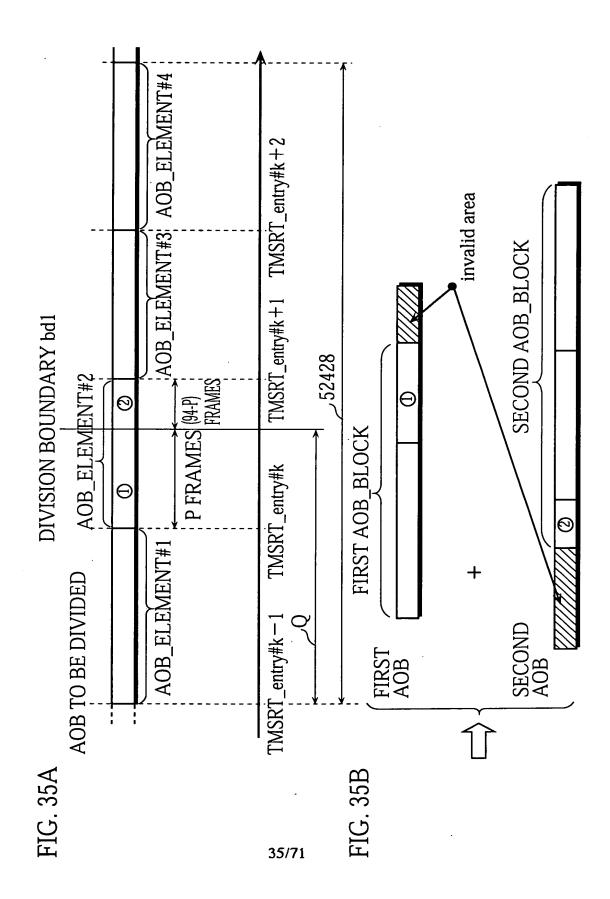
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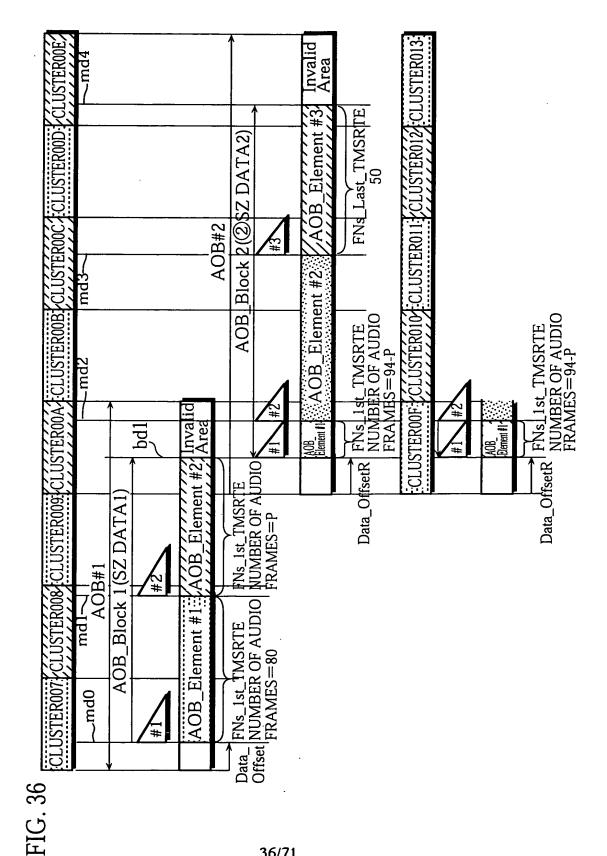






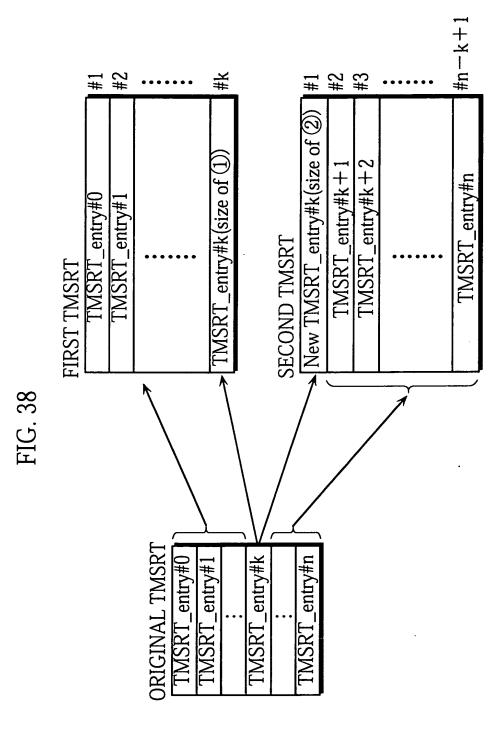






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FIG. 37



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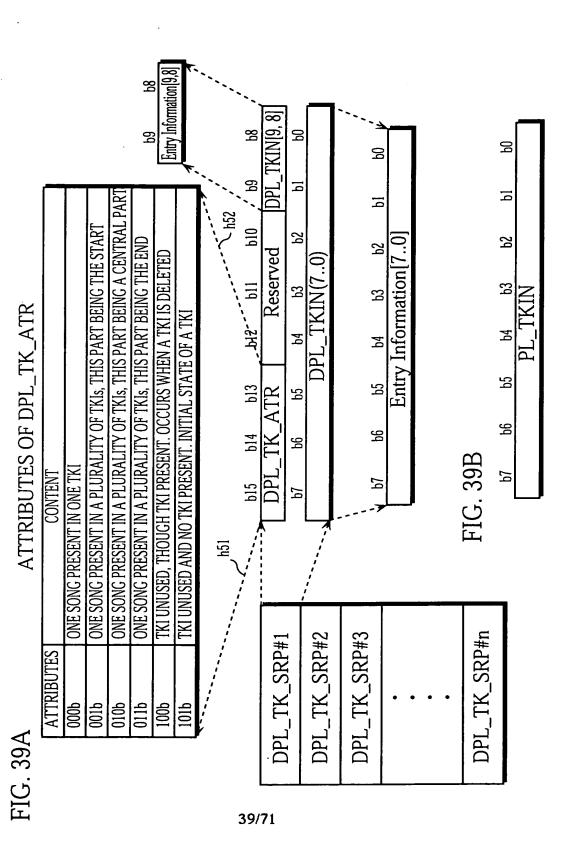


FIG. 40

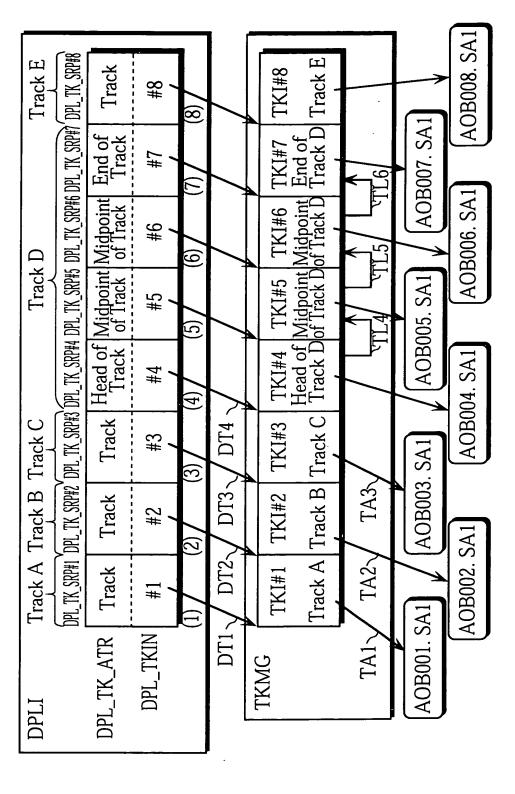
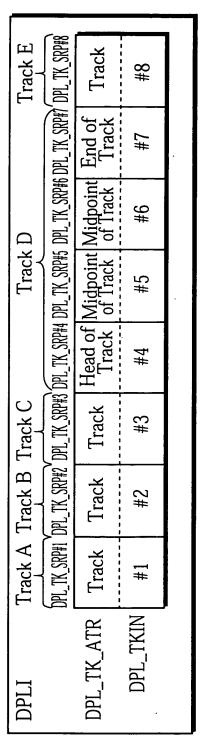
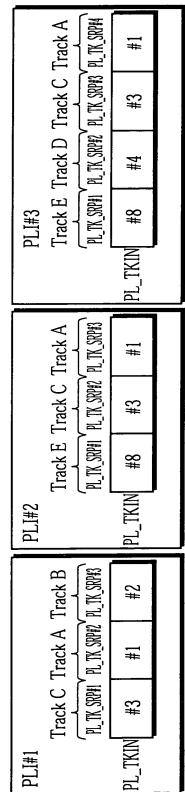


FIG. 41





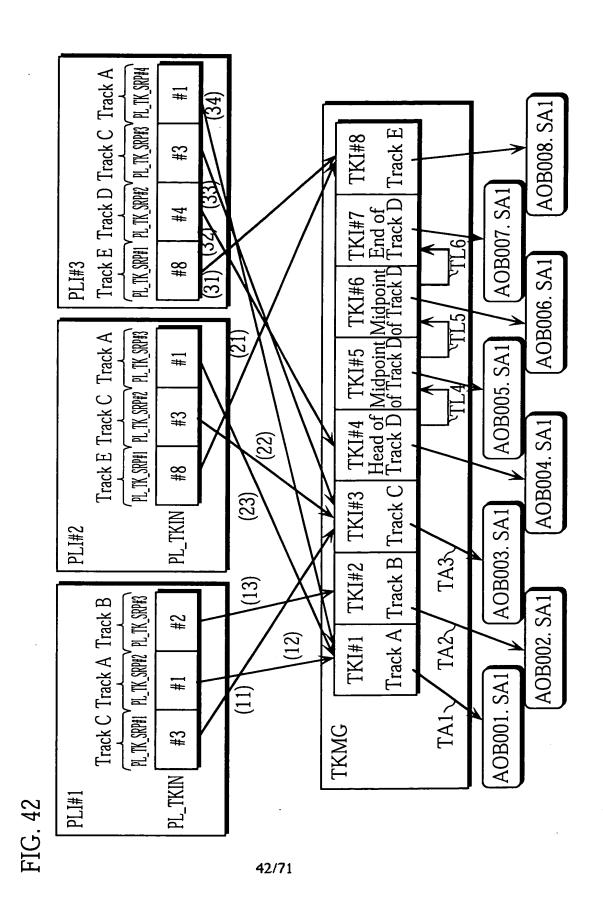


FIG. 43A

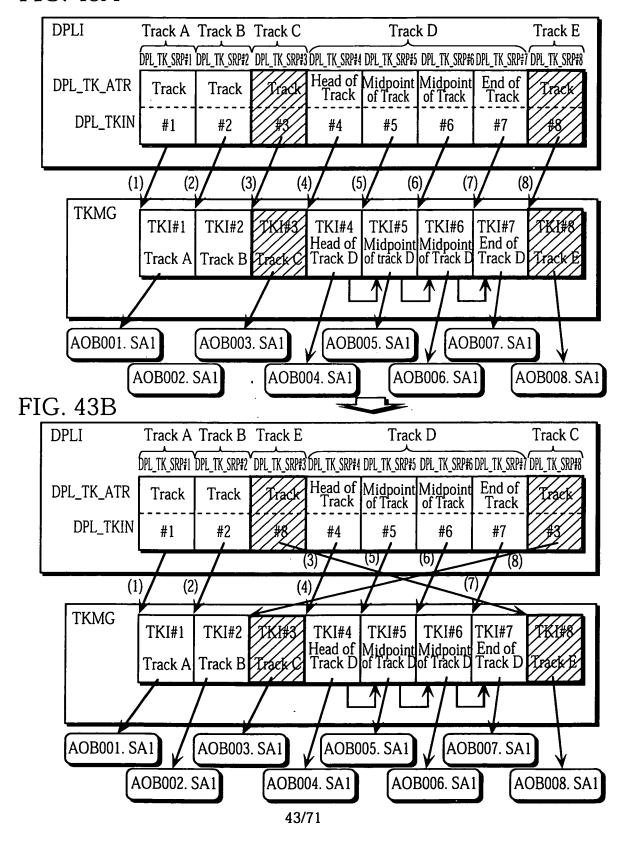


FIG. 44A

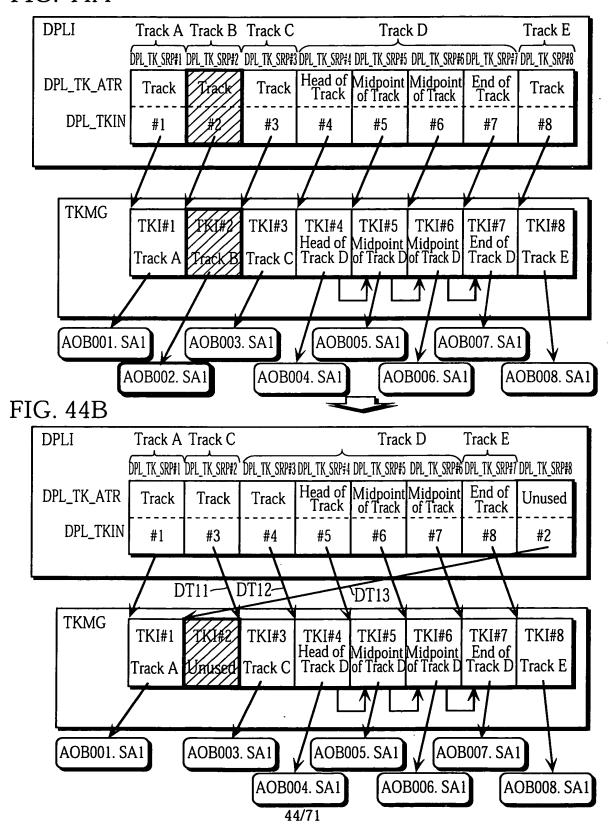


FIG. 45A

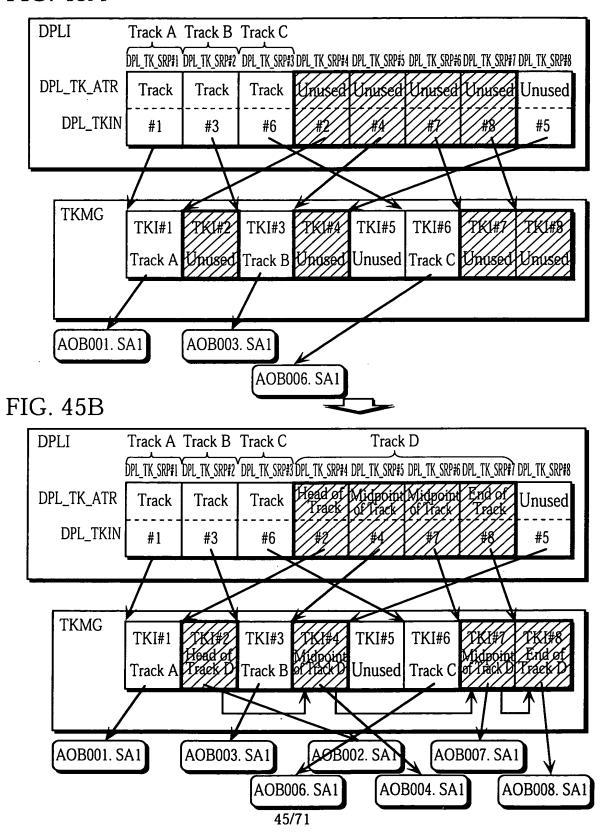


FIG. 46A

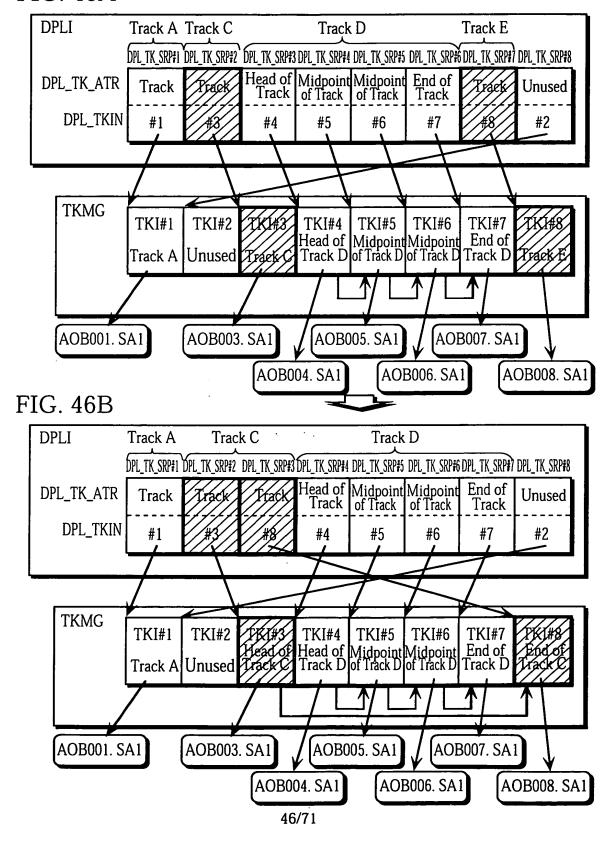


FIG. 47A

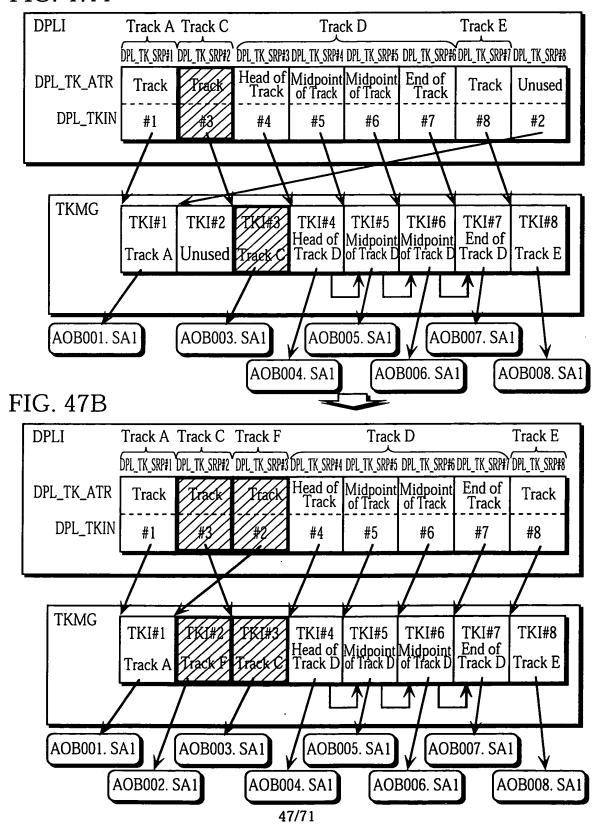


FIG. 48

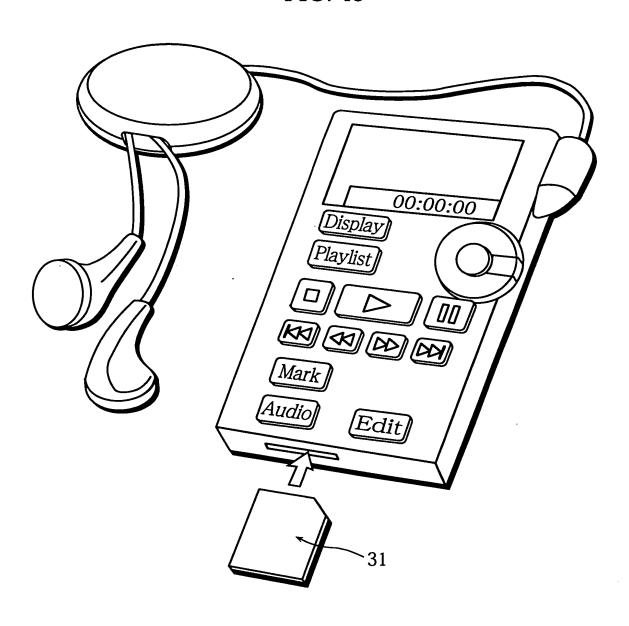


FIG. 49

MENU:
PLAYLIST#1
PLAYLIST#2
PLAYLIST#3
PLAYLIST#4

FIG. 50A

MENU: **DEFAULTPLAYLIST** TRACK#3 TRACK#4 TRACK#5 FIG. 50B MENU: **DEFAULTPLAYLIST**

TRACK#4 TRACK#5



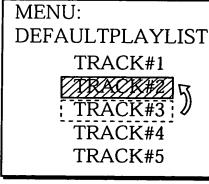
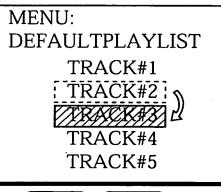


FIG. 50C



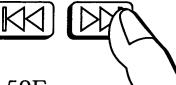
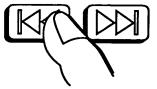


FIG. 50E



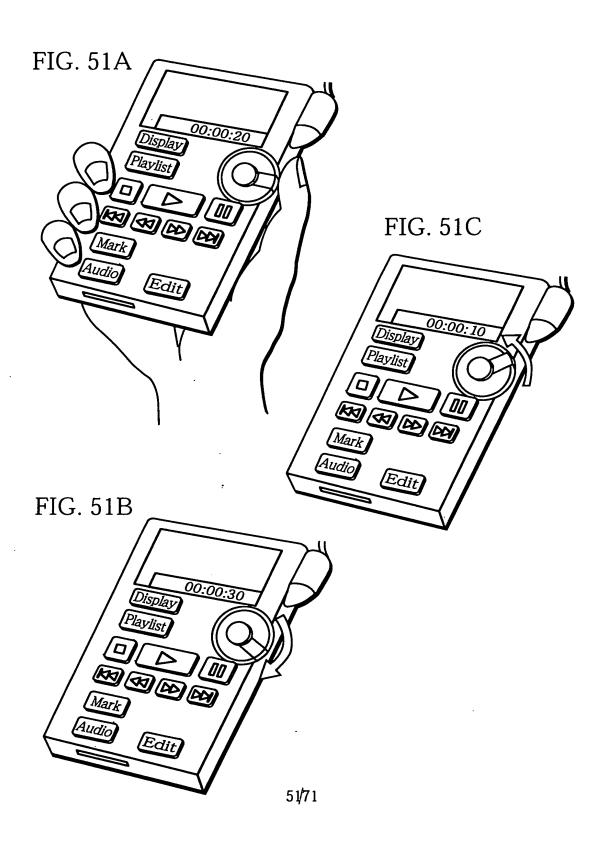


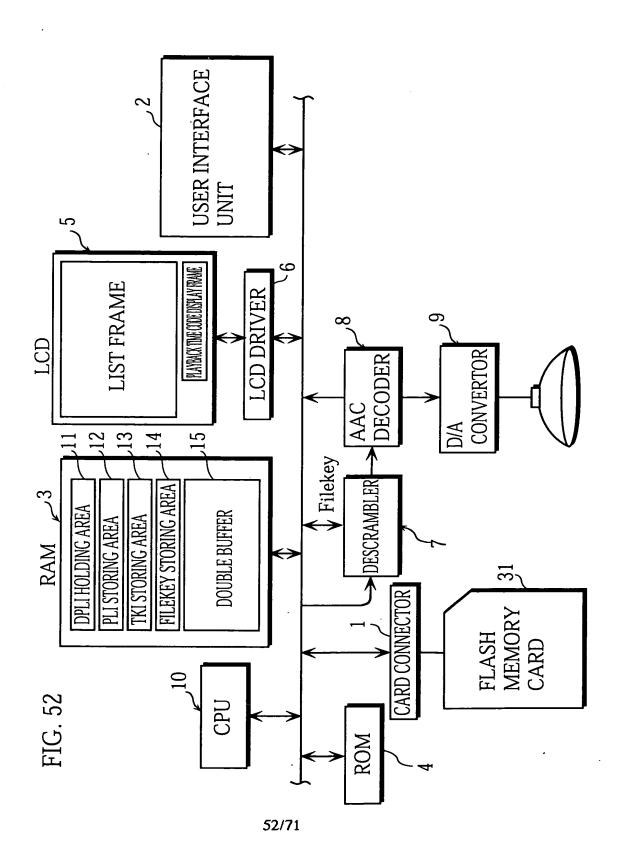
PLAY

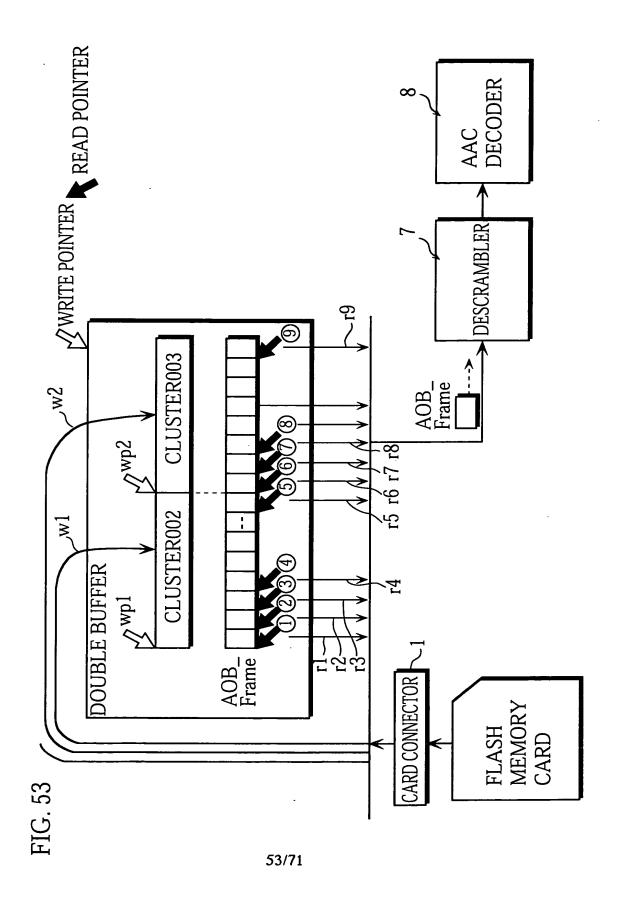
··INDICATES THAT TRACK#2 SHOULD BE PLAYED BACK

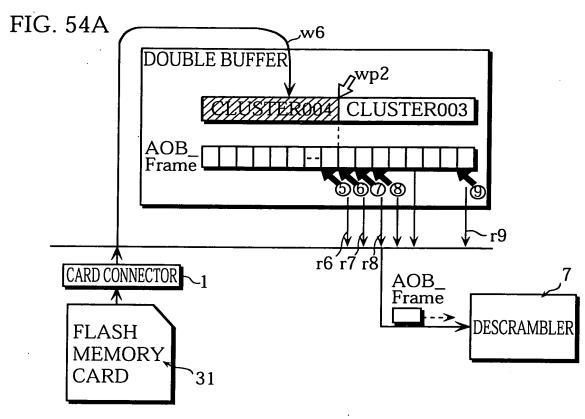
Playlist 50/71

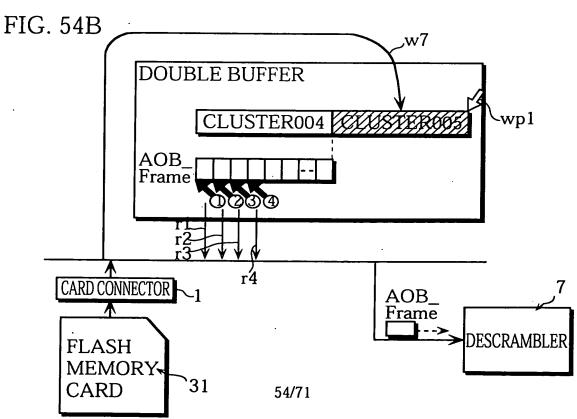
·INDICATES THAT TRACK#2 SHOULD BE EDITED











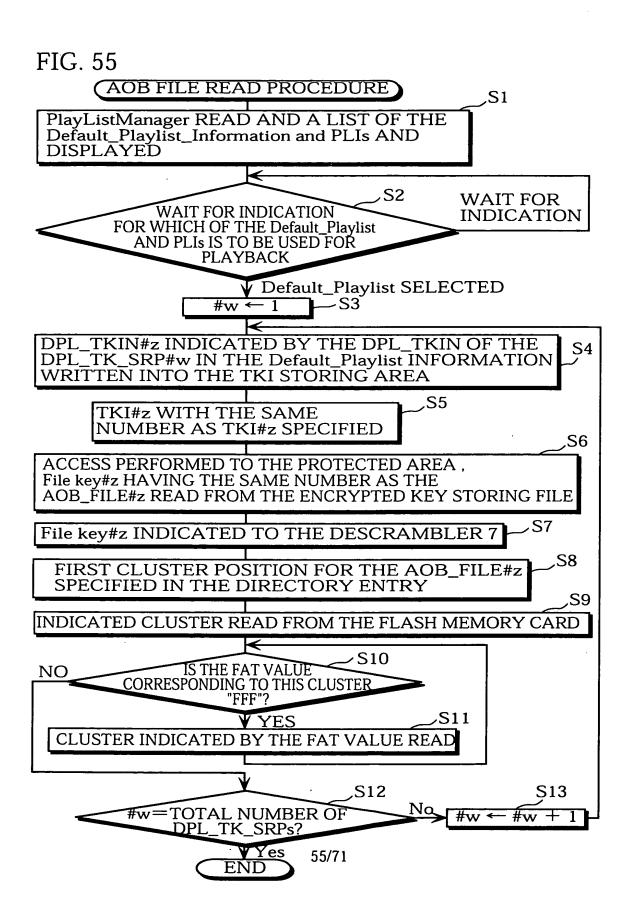
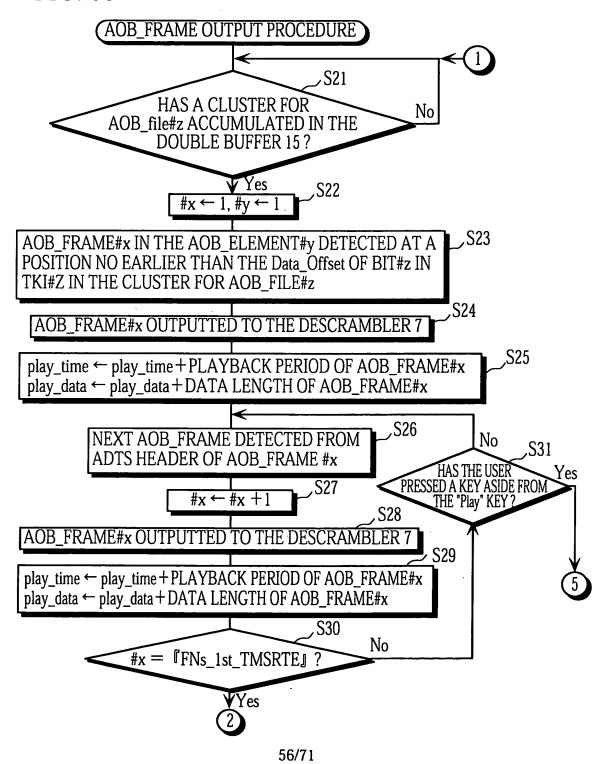
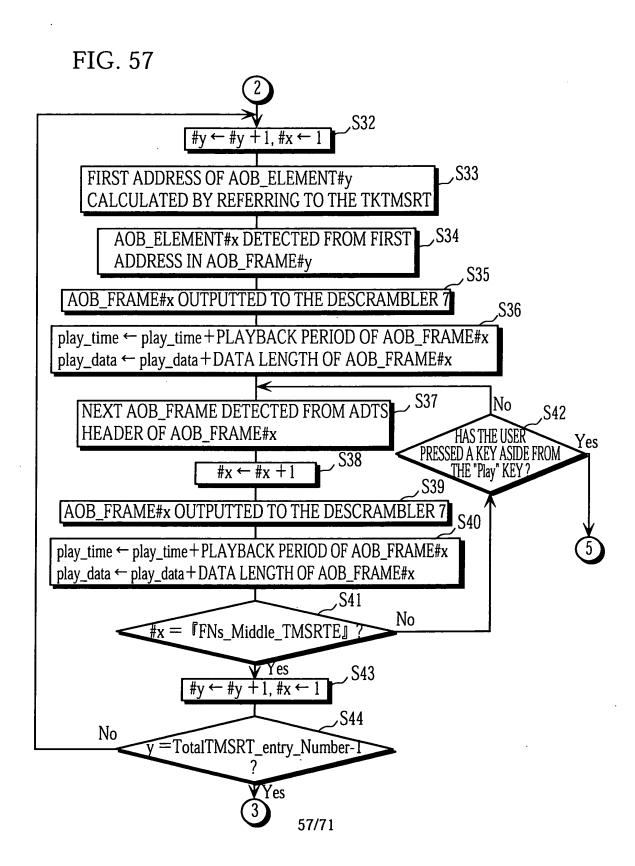


FIG. 56





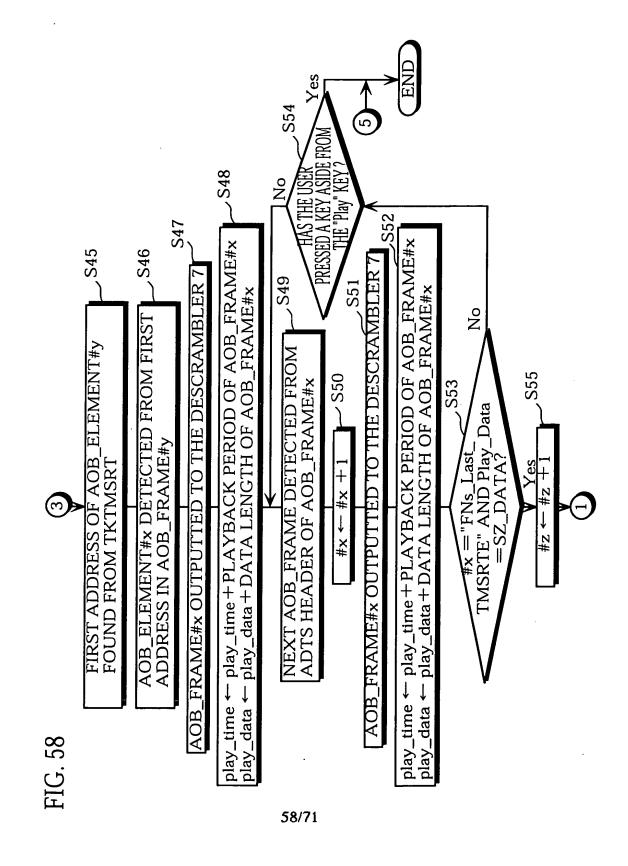
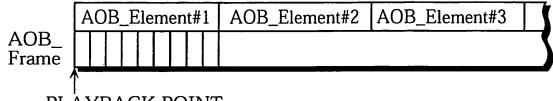


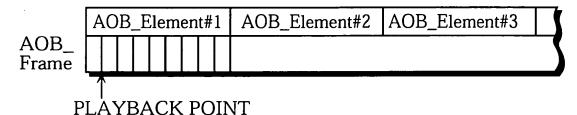
FIG. 59A



PLÁYBACK POINT

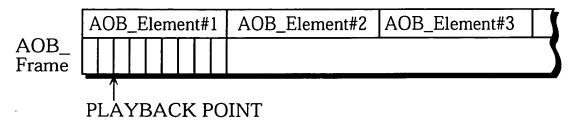
PLAYBACK TIME CODE=00:00:00.000

FIG. 59B



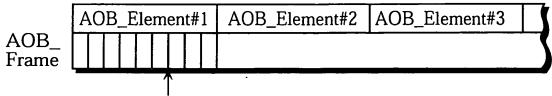
PLAYBACK TIME CODE=00:00:00.020

FIG. 59C



PLAYBACK TIME CODE=00:00:00. 040

FIG. 59D



PLAYBACK POINT

PLAYBACK TIME CODE=00:00:00. 120

FIG. 60

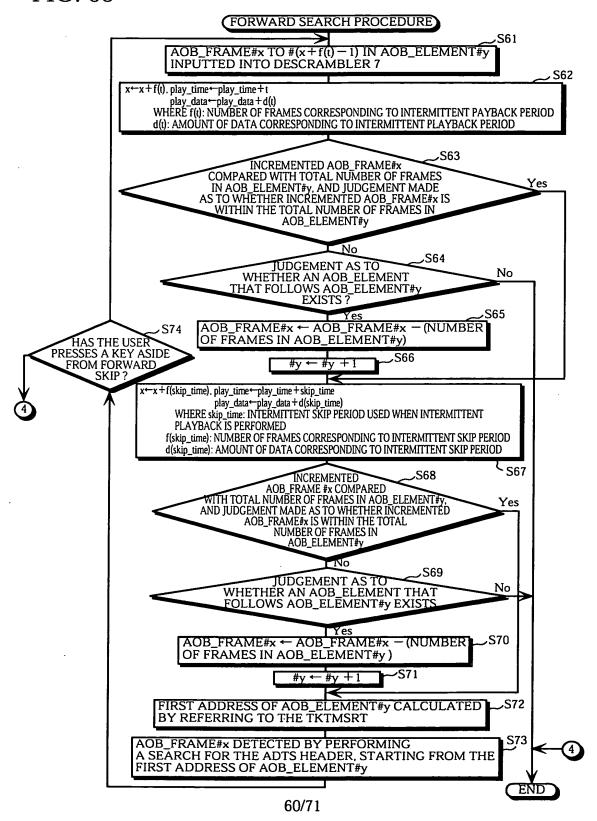
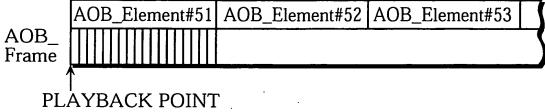
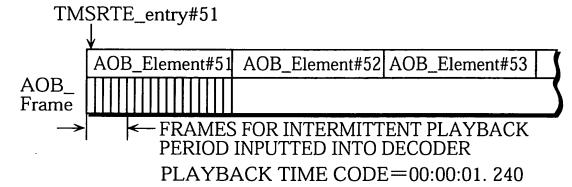


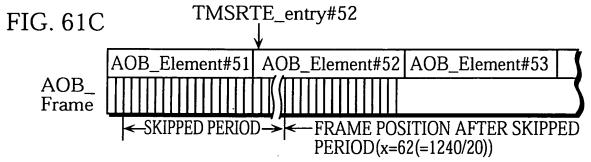
FIG. 61A



PLAYBACK TIME CODE=00:00:01.000

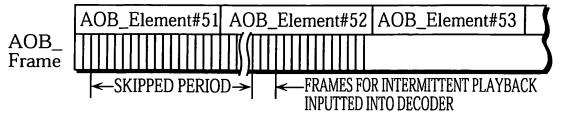
FIG. 61B





PLAYBACK TIME CODE=00:00:03. 240(2.000sec+1.240sec)

FIG. 61D



PLAYBACK TIME CODE=00:00:03. 480



FIG. 62B

BIT	FNs_1st_TMSRTE	80
	FNs_Last_TMSRTE	50
	FNs_Middle_TMSRTE	94

Audio_ Frame	AOB_Element#148				AOB_Element#149					AOB	Element#150
						\prod			Ĭ[

PLAYBACK TIME CODE=00:04:40 (=280sec) 280sec=(80(=FNs_1st_TMSRTE)+148*94 (=FNs_Middle_TMSRTE)+8*20msec 62/71 FRAME POSITION
AT WHICH PLAYBACK
SHOULD START

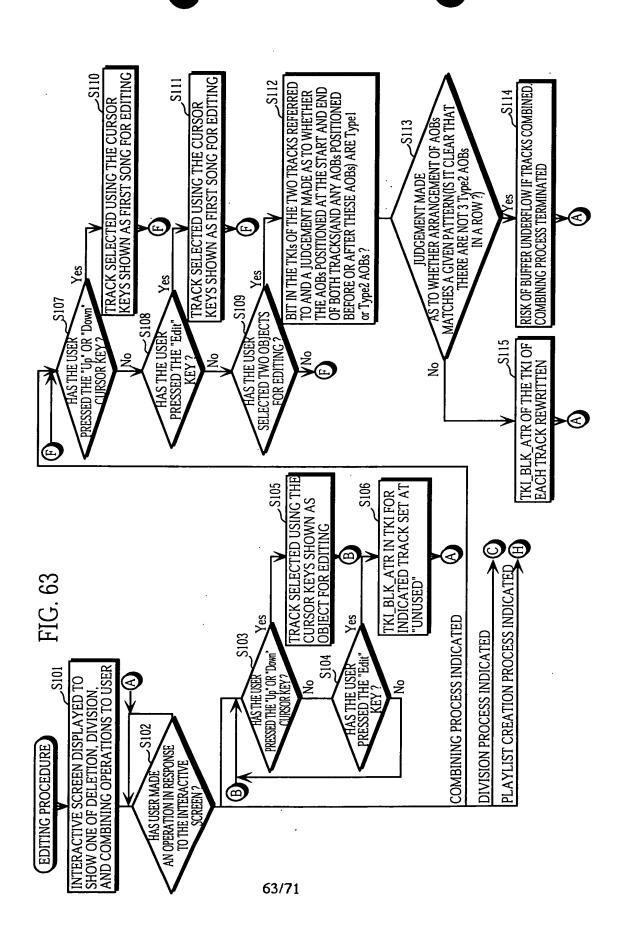
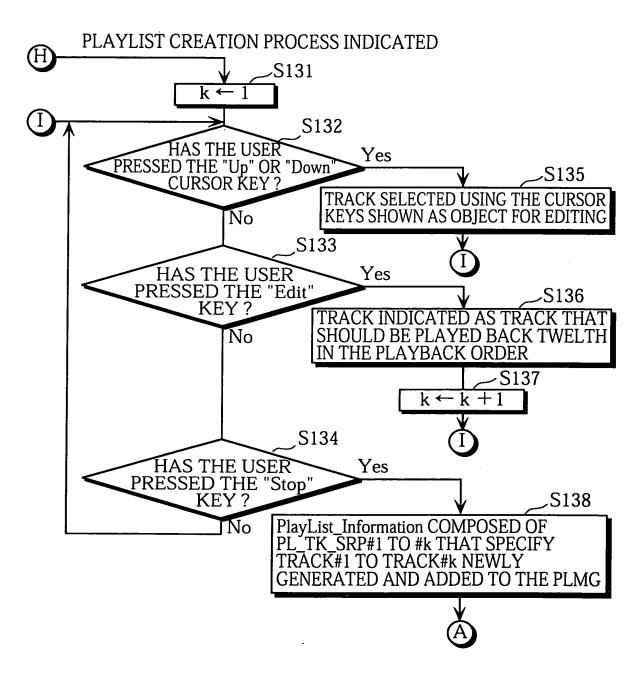
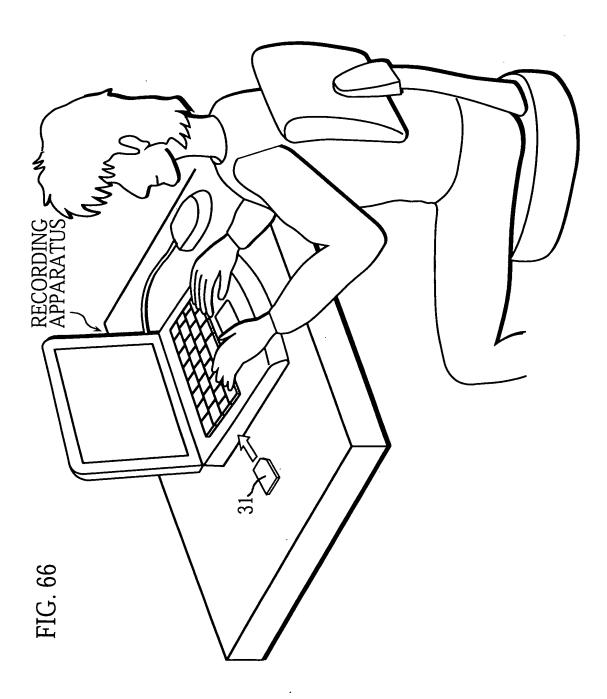


FIG. 64 **DIVISION PROCESS INDICATED** S116 HAS THE USER PRESSED THE "Up" OR "Down Yes S118 CURSOR KEY? TRACK SELECTED USING THE CURSOR No KEYS SHOWN AS OBJECT FOR EDITING S117 HAS THE USER Yes PRESSED THE "Edit"
KEY? S119 TRACK SELECTED USING THE CURSOR JNo KEYS SPECIFIED AS OBJECT FOR EDITING -S120 PLAYBACK COMMENCED FOR TRACK SELECTED AS OBJECT FOR EDITING S121 HAS THE USER Yes PRESSED THE "Mark' KEY? S122 HAS THE USER Yes ROTATED THE JOG S124 DIAL? PLAYBACK TIME CODE CHANGED IN ACCORDANCE WITH ROTATION OF THE JOG DIAL No S123 HAS THE USER Yes PRESSED THE "Edit S125 KEY? PRESENT PLAYBACK TIME No SET AT THE DIVISION BOUNDARY S126 **DIVISION PROCEDURE PERFORMED** FOR THE DPL_TK_SRP AND TKI 64/71

FIG. 65





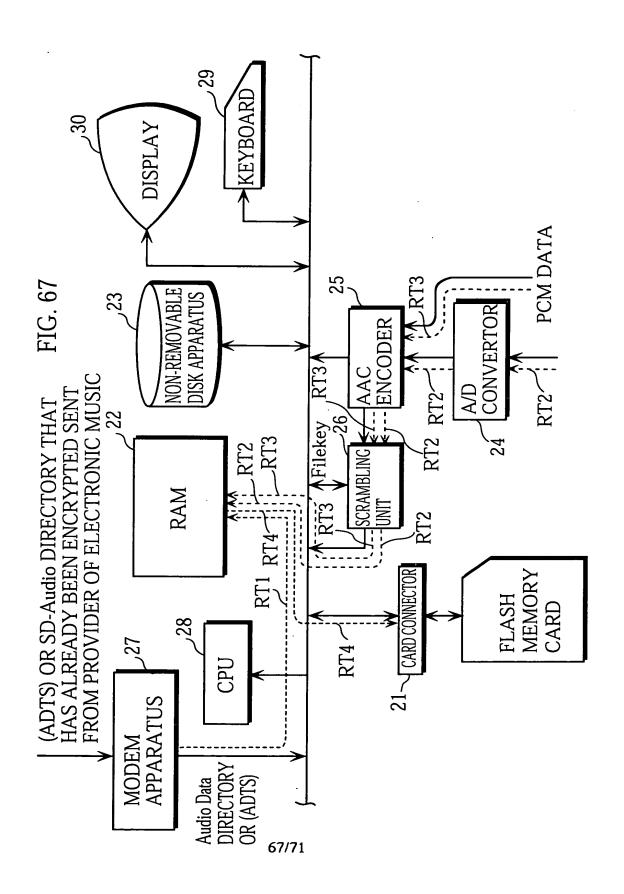
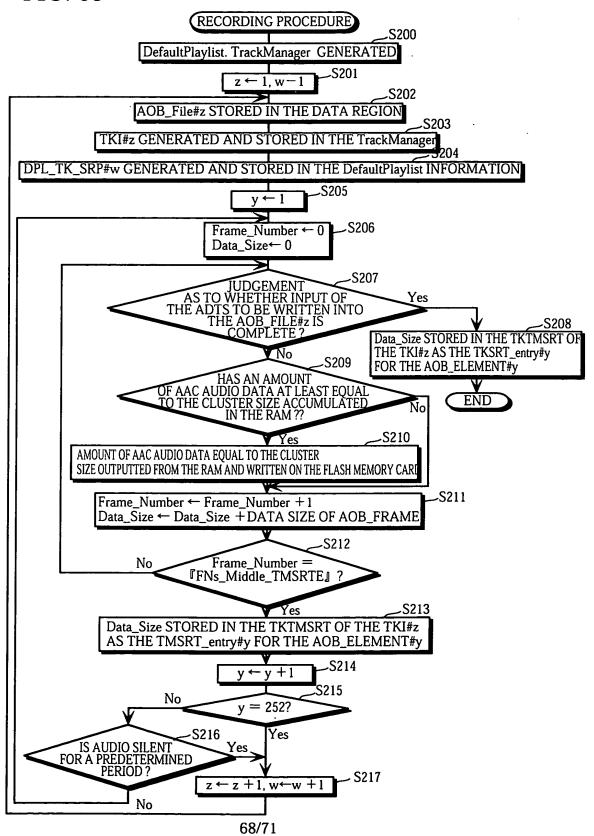
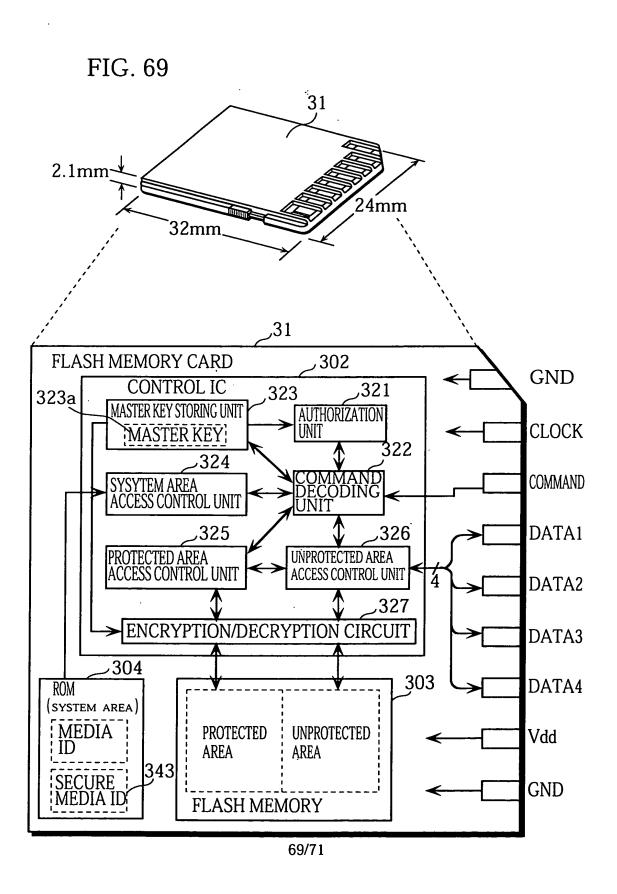


FIG. 68





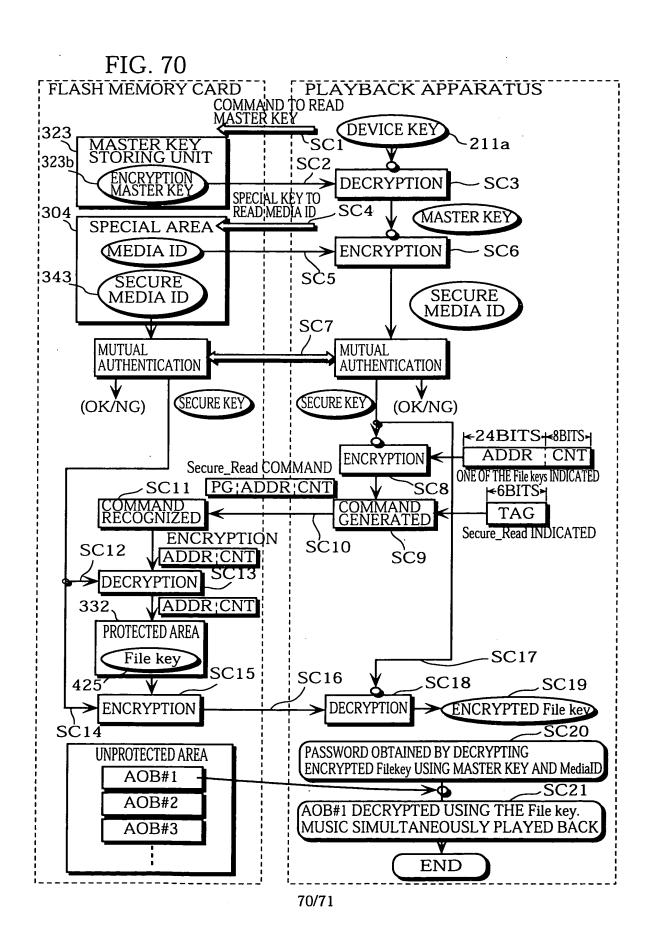


FIG. 71

